

A Bright, Green Idea for Pittsburgh



The Pittsburgh LED Project
Saving Tax Dollars While Saving the Environment

THE PLAN:

Over six months ago, Councilman William Peduto launched a trial of LED lights along the Walnut Street business district. Today, he is submitting a proposal for Pittsburgh to replace all 40,000 existing street lights with 200 Watt LED lights.

THE BENEFITS:

1) Green – Financial

Pittsburgh currently spends \$3.2 million each year in electricity costs for our street lights. With the reduction of 137W of energy used by each of the 40,000 lights in the City of Pittsburgh, **taxpayers will save \$1.92 million per year in energy costs.**

Pittsburgh currently spends approximately \$1 million each year maintaining our street lights. An HPS bulb has 2 - 4 year life span versus 10 - 15 years for an LED light. Additionally, an LED fixture burns out one LED at a time, which is in contrast to the current lights HPS lights which completely blow out all at once. This is expected to **save taxpayers approximately \$700,000/year in maintenance costs.**

2) Green - Environmental

A 200W LED light only uses 93W of power. However, the existing 150W High Power Sodium (HPS) bulbs use approximately 230W (includes the ballast) of power. Therefore, over the year, the City of Pittsburgh will save 600 kWh of energy. This translates into **984 lbs of carbon dioxide emissions eliminated** by switching all lights to LED.

LED lights turn on and off instantly with no warm up time. The existing HPS bulbs have a slow warm up period that is a waste of energy. Additionally, the existing sodium bulbs contain mercury in the ballasts, **LED lights have no mercury.**

LED lights produce a white light that stimulates the rods and the cones of our eyes. This creates a higher quality white light, while using less energy than the HPS lights that only stimulate the cones of our eyes and produce a yellow-orange light.

THE COST:

Each LED light costs approximately \$500 to purchase. Additionally, it would cost about \$100 in labor/light in conversion costs. Therefore, the cost to replace 40,000 lights would be approximately \$24 million.

PAYING FOR IT:

With a total cost of \$24 million and an annual savings of \$2,620,000 upon complete conversion, the City can fully payoff the LED conversion in 10.5 years.

Pennsylvania's Guaranteed Energy Savings Agreement (GESA) can be utilized to cover the upfront costs of the LED conversion. According to the State, "Projects will be implemented where, through simple-payback analysis, cost savings resulting from energy conservation improvements exceed the associated financing. In other words, these guaranteed savings are used to cover operating budget finance payments over a period not to exceed fifteen years.

NEXT STEPS:

The City should issue a Request for Proposals (RFP's) immediately requesting that all interested companies provide the City with ten test lights to install throughout business districts in the City for a six month trial (February 1, 2009 – July 31, 2009). During the trial period, measurements should be taken to determine the luminous intensity and the energy produced. Solar powered lights and those with photo-sensitive detectors that lessen the light during dusk and dawn should be included in the trial.

The City should award the contract no later than August 31, 2009, based on required conditions of the RFP process, reliability through trial phase, and long term financial and environmental impact. The contract should require work to begin no later than October 1, 2009 and completed by December 31, 2010.

The City should immediately submit an application with the State through the Guaranteed Energy Savings program.

The City should determine programs we can work with to properly dispose of the existing HPS lights. This could be done through the United States Agency for International Development (USAID) or a similar program.

Frequently Asked Questions:

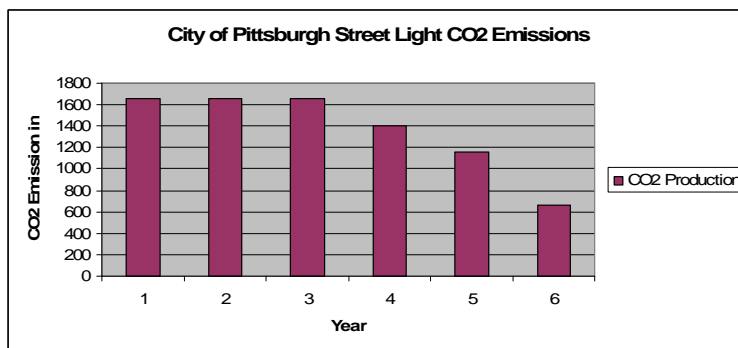
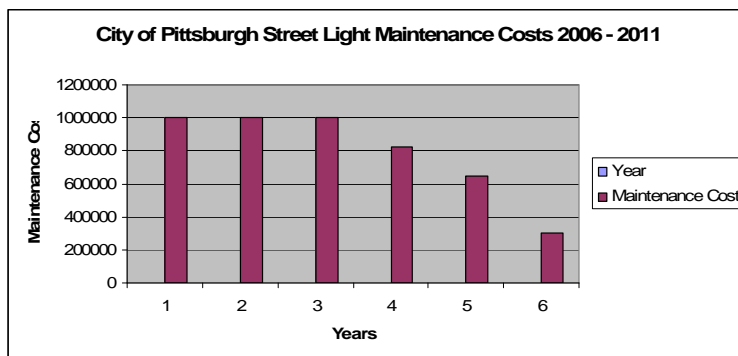
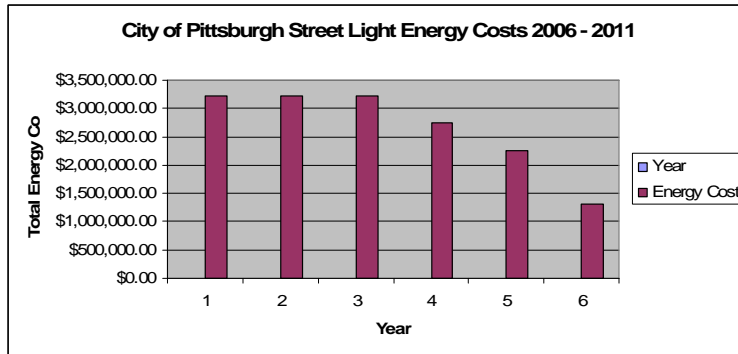
Q: What is an LED?

A: A light emitting diode (LED) is a diode that emits light when an electrical current is present. It has no moving or fragile parts.

Q: Have Other Cities Implemented Such A Program?

A: Some cities smaller than Pittsburgh have introduced similar programs. Additionally, several cities have introduced partial programs. These include Raleigh, Ann Arbor, Anchorage, Toronto, and Austin. Pittsburgh has the opportunity to become the largest city in the United States to complete a full conversion.

Pittsburgh Savings



***These charts assume the energy costs remain constant. They are also based on 25% implementation in 2009, 50% implementation 2010, and 100% implementation in 2011.

Guaranteed Energy Savings

“The executive order establishing the Governor's Green Government Council identifies building energy efficiency as a priority. Efforts are already under way to insure that new buildings designed for Commonwealth occupancy are constructed according to current energy efficient principles. The Guaranteed Energy Savings Agreement (GESA) allows agencies to contract for similar energy conservation measures in existing buildings without the requirement of an up-front capital budget allocation. As the agency responsible for Commonwealth buildings, DGS, Facilities Management has been assigned the lead for developing a process through which agencies can easily enter into guaranteed energy savings contracts. Projects will be implemented where, through simple-payback analysis, cost savings resulting from energy conservation improvements exceed the associated financing. In other words, these guaranteed savings are used to cover operating budget finance payments over a period not to exceed fifteen years. The Director, Bureau of Facilities Management, is the primary contact for those interested in implementing this process.

The Department of General Services has established an outreach program to help Local and County Governments, K-12 Schools, and other Governmental Entities investigate Guaranteed Energy Savings Projects. For additional information about the Commonwealth's Guaranteed Energy Savings Act (GESA) for the DGS GESA performance contracting program, please contact the DGS Energy Management Director. The Energy Management Director is available to assist in implementing GESA projects. Services include assistance in project structure (provision of forms, scoring criteria, timelines, etc.) and acting as Program Manager.

In addition, the Penn State Facilities Engineering Institute (PSFEI) website offers information regarding GESA, including a list of active GESA projects along with links to Energy Service Companies (ESCOs), energy procurement news, and other energy-related data.”

(<http://www.portal.state.pa.us/portal/server.pt?open=512&objID=1300&mode=2>)